plane
GRUMMAN
news
Vol. 29, No. 16, Bethpage, N. Y., Sept. 14, 1970

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Our POWs . . . where are they?
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Production photos by Bob Settles

Testing continues, production on target . . . and F-14 team looks toward first flight

The action is coast-to-coast and moving well.

"I'm delighted with the progress," said Vice President Mike Pelehach, F-14 Program director, following a tour of Grumman's testing facilities at the Navy's Point Mugu missile range in California.

The same good notices could be tacked up on east coast bulletin boards. F-14 seems a lusty, fast growing bird.

Take the production-assembly jobs going on in Plant 1 as an example. There you'll find that Frank Leone, final assembly Production manager, is thoroughly convinced that the first flight date of December 8 will hold. "No problem," says Leone.

How about all the testing? Sam Fletcher, whose concern is to coordinate that program, looks over the list of tests—fuel system, wing center section box beam, boron stabilizer, among others—and pronounces them sound. In addition, the sled tests to demonstrate the fully integrated operation of the F-14 escape system are starting now at China Lake and Fletcher sees no reason why they should be anything but successful.

Major milestone

A major milestone in the production of aircraft Number One came on Sunday, August 16, when Fairchild Hiller delivered the aft module (which includes the Rohr-made nacelles) to Grumman for joining to the mid-module; and the next day, joining of the left-side fuselage section of the forward module to the right-side section. As Joe Harrison, Associate Subcontracts manager, pointed out, "Getting that aft module, which is the largest single section of the aircraft, was, in a way, the most significant event in our production effort thus far, because that assures us that we will have the structure that's needed to make the first-flight deadline."

That, of course, is just the way Leone and his gang feel—and they've translated that feeling into the currency of hard progress.

To back up his case, Leone ticks off a list of progress points:

- Avionics harness installation in the forward module got under way August 22
- Installation of the fluid power and propulsion systems began August 25
- Ducting installations for the environmental control system in the forward module started August 27
- Brazing of the first set of production hydraulic lines was accomplished successfully on the same date
- On September 1, production engines were received from Pratt and Whitney.

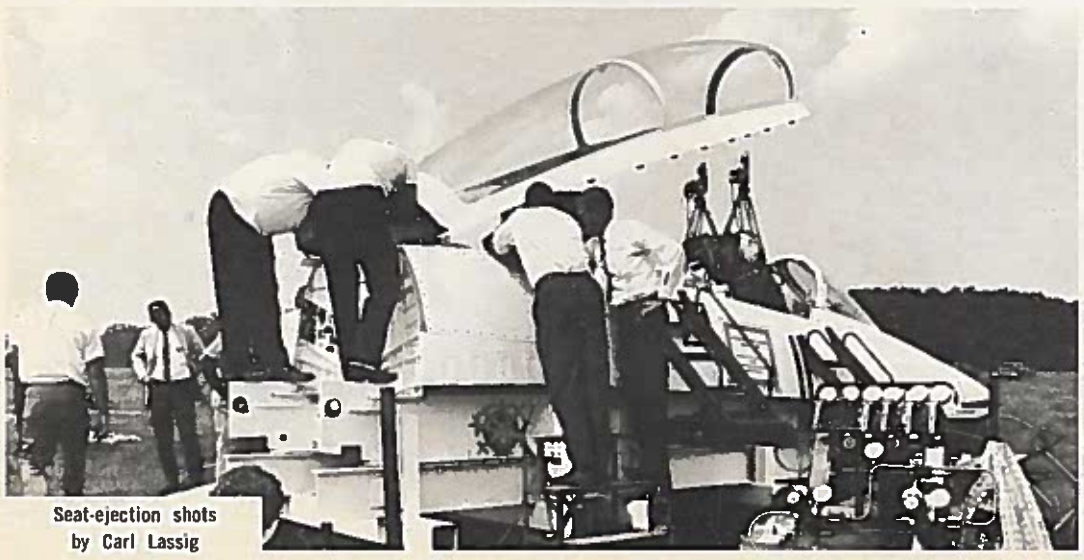
"Right now," Leone says, "we're installing forward and aft consoles in both cockpits. Coming up is work on the mid-module fuel cells structure and a lot of subsystem installations—instrumentation, avionics, hydraulics, flight controls, and so on. And as Tony Stanziale, EMMA manager, can tell you, we wouldn't be this far along if it weren't for the mockup effort on EMMA (Engineering Manufacturing Mockup Aide). It has given us confidence to insure our first flight."

Later this month, the main landing gear is due in, as are the inlet duct and glove from Rohr. Fins and rudders will be in this month, too. As October starts, Aircraft Number One's wing center section is to be installed. It's a busy schedule. . . .

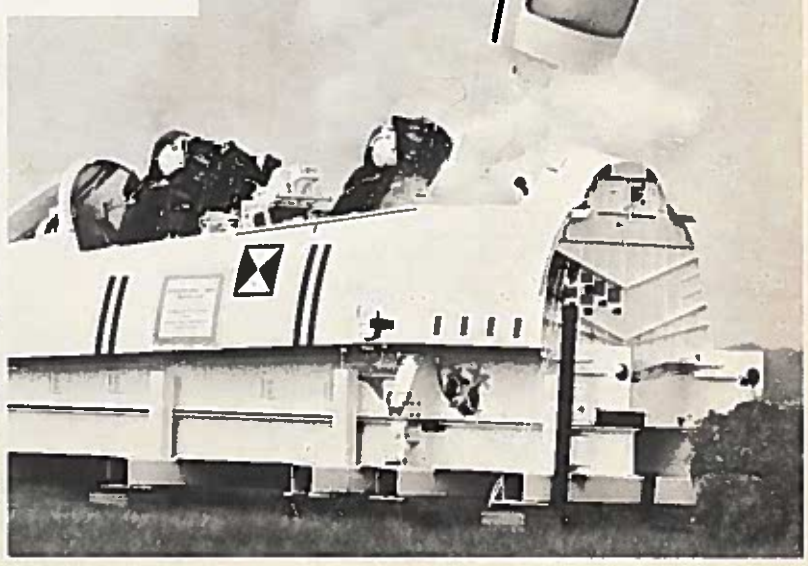
Testing programs, of course, match the assembly pace. In some cases, testing has had a running jump on assembly—testing of the boron stabilizer and the wing center section box beam programs are cases in point. Boron filament composites were used, minimally, on both the A-6A Intruder and the F-111. From that experience came a research and testing breakthrough for F-14: the **first** application of boron filament composite structural design techniques to a primary flight control surface.

Structural tests of a full-scale prototype stabilizer

(Continued on page 10)



Seat-ejection shots by Carl Lassig



Fehrs, Lemlein appointed to new corporate posts

Grumman's Savannah Facility has a new general manager. Al Lemlein, formerly F-111 Program manager in Plant 36, has been named head of the Savannah Commercial Center, reporting to Vice President Corky Meyer. Lemlein is in Plant 55, Savannah, and can be reached on 56-912-964-1454. Bill Spiegel, formerly assistant Program manager, is now F-111 Program manager, reporting to Senior Vice President Bill Zarkowsky. Spiegel is in Plant 36, on Ext. 2732.

Bill Fehrs, who has been deputy director of the Gulfstream Program since 1968, is the new director of the Gulfstream Program. He will be responsible for the direction and coordination of all commercial aircraft and related programs, reporting to Senior Vice President Bill Zarkowsky. Fehrs is in Plant 1, Ext. 7415.

Both Lemlein and Fehrs are former pilots, Lemlein in the Marines, Fehrs in the Navy. Lemlein is a graduate of the United States Naval Academy, Class of 1943. He joined the Marine Corps that year, took flight training in 1947-48, flew Corsairs and Banshees, and eventually was assigned to Special Weapons service at Sandia Base, Albuquerque, N.M.

Flight test start

Lemlein came to Grumman from the Marine Corps, starting in 1954 as F-11F-1 Flight Test engineer. He became successiveiy A-6A Intruder Program representative, S-2/C-1A Tracker/Trader Program manager, and Program manager of F-111 subcontract.

Fehrs was a Navy pilot from 1942 to 1947 and he's been with Grumman since his graduation from Purdue University in 1951. He started his Grumman career in Flight Test Engineering and subsequently served as Flight Test project engineer on the F9F-8 and the F-11F. From 1957 to 1959 he was assistant project engineer on the Gulfstream I.

The A-6A Intruder claimed all his time for the next seven years; he was project engineer and then Engineering manager on that plane. He then became Program manager of the TC-4C (1966) and Gulfstream deputy director two years later. Earlier, in addition to his Gulfstream duties he directed the Product Development Center in Plant 1.

Additional appointments were announced for the Commercial Flight Department. John Stevens is named assistant manager, and Ted Faller, chief pilot. Both are in Plant 4, Stevens on Ext. 9632 and Faller on Ext. 9819. They report to John Jefferies, manager of Commercial Flight Transportation.

Al Lemlein

Bill Fehrs

Spur to savings?

Residents of New York State and American citizens everywhere who own or are buying United States Savings Bonds are in line for higher interest on their Bonds. The increase in the form of a one-half percent bonus raises the effective interest rate on new Savings Bonds from 5 percent to 5½ percent, when held to maturity.

The bonus applies not only to new issues sold on or after June 1, 1970, but also to older Bonds as well, so there is no advantage in redeeming outstanding Bonds to buy new ones.

'Oldtimers' day

Grumman's annual 25-year luncheon honoring quarter-century personnel is scheduled for Tuesday, December 22, at Huntington Town House. Note well.

Athletic Club lists exhibit dates for Hobby, Photo, Art shows

The 1970 Hobby Show will be held October 15-18, in the Personnel Building Auditorium, Plant 28.

The Art & Photography Show will be held November 19-22 in Plant 28 also.

Here's a rundown of Hobby Show requirements and attractions:

Three prizes offered in each of these 24 categories:

Ceramics, Collections (Coin), Collections (Stamp), Collections (Misc), Crocheting, Embroidery, General, Gunsmithing, Knitting, Leather Work, Metal Work, Model Planes (Flying, Scale), Model Planes (Flying, Non-Scale, Original Design), Model Planes (Non-Flying, Scale), Model Planes (Non-Flying, Non-Scale, Original Design), Model Railroads, Needlework, Science (Working Models), Sewing, Ship Models (Kits), Ship Models (Original Design), Ship Models (Scale), Wood Carving, Wood Work.

Entries must have been completed during the past two years, says Mike Cherry of GAA, and entries from previous hobby shows are not acceptable. The number of entries is limited to two in any one category, maximum of six in all categories. A coin exhibit will be limited to one display case. Only one award will be given to a person in the same category.

Entry blanks and information are available from GAA Office, Plant 28B (S. Oyster Bay Road, behind G.E. building, west side), Ext. 2133 or 2269. Calverton plants' contact is Katherine Eng, Plant 6 Library, Ext. 335.

Dates for acceptance of entries: October 13 and 14 at the lunch hours or 4:30-6 p.m., Plant 28.

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The last showcase for floral exhibitors, the Chrysanthemum Show, is scheduled for October 22, in Plant 2 Cafeteria.

For next spring's Grumman Tulip Show, Breck's of Boston is offering gift certificates of $25, $15, and $10 value for the best tulips to be displayed by Grumman growers. Take it from there. These, says Grumman Garden Forum Director John Steffens, will be in addition to the usual show trophies.

Dollars for scholars

The Board of Directors of the Bethpage Aircraft Federal Credit Union has for some time been concerned about the difficulties which the tight money situation has created for members seeking loans for purposes of educating their children. In response to this very real problem, the Board of Directors has approved a plan to lend under the Federal Insured Student Loan Program. Accordingly, a limited amount of money has been allocated for this Program.

Up to a maximum of $1,500 per academic year may be borrowed by the student for purposes of higher education. The 7% annual rate of interest is paid by the Federal Government while the student is in school and during authorized periods of deferment, provided that the adjusted annual income of the student and his parents is less than $15,000. Repayment by the student of the loan principal and interest begins between 9-12 months after the student completes his course of study or leaves school.

"The student is under full obligation to repay the loan," explains Bob Giles, Credit Union president. "And since this will probably be his first experience with installment credit, the importance of the way he handles such an obligation cannot be over-emphasized. He now has the opportunity to establish good credit and to build a sound financial reputation."

Applications for these loans together with detailed information about the Federal Insured Student Loan Program are available at the Credit Union Office. Completed applications will be reviewed by the Credit Union Loan Committee, which has full discretion to approve or disapprove each application.

Challenge accepted. Grummanites at Stuart, Fla., were commended recently by Col. Donald Jersey (C), deputy commander for Acquisition, U.S. Army Aviation System Command, for their pledge to 'do the job right the first time.' Colonel Jersey is shown presenting Zero Defects Participation Award to Bill Cobey, director of the Stuart Work Center, at ceremony attended by (L to R) Joe Mullally, Project Sterling coordinator; Vince Carnazza, chief, Industrial Production, USAGPA; and Maj. Dave Amaral, deputy commander, U.S. Army Grumman Plant Activity. (Photo by J. Heffelfinger)

J. F. Van Name
Engineering

W. F. Goedtel
Alodine

J. H. Aspinall
Fuse. Tail

E. G. Erichsen
Ordnance

T. Pletka
Controls

J. E. Kielbasa
Sm. Pts. Fab.

R. W. Reeve
Honeycomb

H. P. Antes
Honeycomb

R. J. Greenway
Instr. Test

Twenty-five hit 25th anniversary with Company in September

Up at the top of this month's anniversary roster is Charlie Staffeldt of Tool Fabrication - Die Shop, Plant 2, sole September representative of "the Class of 1935." On September 9 he completed 35 years with Grumman. His Permanent Number is 71.

The 30-year list contains some well known names and encompasses 16 men who are wrapping up three decades of Company service:

PLANT 1: Philip Mulé and Felix G. Alfano, both of Prototype; John F. Dickinson, Production Project Managers.

PLANT 2: Albert Cierpik Jr., Production Control - Parts Control/Major; Louis Bottino, Controls.

PLANT 3: Joseph E. Krumey, Honeycomb Layup & Process; Lee Rohon, Machine Operations - Tech Service.

PLANT 5: Ernest J. Arena, Sub System Test Administration; Robert S. Wertheim, Inspection - Aerospace Assembly.

PLANT 10: Charles P. Albertson, Quality Control Laboratory.

PLANT 12: Joseph E. Racz, Material & Process Administration.

PLANT 15: Joseph H. Harrison Jr., Subcontract Management.

PLANT 24: Edward D. Westervelt, Receiving Inspection - Machined Parts.

PLANT 35: Howard K. Kreier, Corporate manager, Drafting.

PLANT 55: Arthur D. (Jiggs) Dreyfus, Administration, Savannah.

PLANT 77: Joseph J. Fisch, Production Engineering, Stuart.

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And here are the newcomers to Grumman's Quarter Century Club—25 men who are completing 25 years. Those years represent a tremendous variety of original starting dates, from Jack Van Name's (Permanent Number 656) to John Martyn's (43685). Each one's service adds up to a silver anniversary attained after VJ Day.

PLANT 1: John F. Van Name, Project Engineering - Development Aircraft.

PLANT 2: William F. Goedtel, Alodine; Chester L. Rykowski, Steel Parts Assembly; James H. Aspinall, Fuselage Tail; Edward G. Erichsen, Ordnance; Thomas Pletka, Controls.

PLANT 3: John E. Kielbasa, Small Parts Fabrication; Rodney W. Reeve, Honeycomb Prefit; Edward M. Merritt, Honeycomb Layup & Process; Harry P. Antes, Honeycomb Final.

PLANT 5: Reginald J. Greenway, Instrument Test;

A. P. Koval
Surfs. & Assem.

C. Cosma
Engineering

R. W. Thompson
Engineering

H. E. Dummeyer
Part Fab.

G. H. Boyce
Warehouses

Albert P. Koval, Surfaces & Assembly; Charles Cosma, Vehicle Production Engineering.

PLANT 7: Ralph W. Thompson, Electronic Production Engineering.

PLANT 14: Henry E. Dummeyer, Part Fabrication.

PLANT 17: George H. Boyce, B/P & Off-Site Warehouses.

PLANT 27: Paul Cocchi and Bernardino Pennino, Fuselage Sub-Assembly.

PLANT 30: Albert J. Schuckle, Planning & Control Management & Staff; John McKenna, Facilities Maintenance.

PLANT 34: John J. Martyn, P/S Structural Mechanics Engineering Design.

PLANT 36: Michael A. Pascucci and Michael Dalto, Fuselage Minor Assembly.

PLANT 38: Donald H. Warner, Training & Development.

PLANT 77: Royal E. Bishop, Material Administration, Stuart.

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Three women and 45 men are completing 20 years with Grumman.

PLANT 1: John Schoendorf, T/M Methods Engineering - New Program; Herbert Grant, Food Service; Richard L. Johnson, Equipment Lines.

PLANT 2: Russell C. Moszkow, Cadmium Plate; Isaac Burton, Heat Treat; Alphonse Siani, Plant Management & Staff; William H. Maddocks, Production Control - Parts Control Detail; John Verbsky, Plant Stores & Distribution; Donald A. Spetta, Manufacturing Engineering Management & Staff; John H. Wikane, Inspection - Mechanical.

PLANT 3: Robert L. Disch, T/M Methods Engineering Tool Design.

PLANT 5: Joseph G. Cuty, Surfaces & Assembly; Edgar R. Gaubert, Space Management & Staff; Marie Miller, Mail Service; Mary J. Phillips, Food Service; Jesse P. Archey Jr. and John J. Cottrell, Advanced Aircraft Systems; Floyd J. Miller, Inspection - Aerospace Assembly.

PLANT 6: Fritz Hartl, Plant Stores & Distribution; Arthur Chebuske, Inspection - Electronics.

PLANT 7: Frank Krepela, Flight Operations.

PLANT 11: Peter M. Reid, Plant Stores & Distribution; Reginald F. Von Rhee, Tool Fabrication - Plaster Tools; Joseph Marzano, Inspection.

PLANT 12: William Van Dervlies, Instrument Fabrication Repair; Charles J. Raven, Production - Budgets Manpower.

PLANT 17: James E. Halpin, Shipping & Spares Control.

PLANT 18: John Yarrow and Edward Segreto, Plant Protection.

PLANT 20: Peter A. Walters and Harry Brown, Transportation Operations.

PLANT 24: John W. Corcoran, Receiving Inspection - General.

PLANT 25: Perry Ungerland, Material - Space Program; Pasquale J. Fischetti, Crew & Equipment Integration.

PLANT 27: Douglas Corey, Fiberglass.

PLANT 28: Augusta K. Harms, Employment.

PLANT 29: George Burns, Controls; Joseph A. King, Plant Stores & Distribution.

PLANT 30: Robert D. Eaton, Machined Parts/Raw Material; Edward A. Salter Jr., Engineering Equipment.

PLANT 33: Edward Schultz Jr., Avionics Assembly; Lawrence J. Sefchek, Propulsion Installation.

PLANT 35: George P. Yost, Machined Parts.

PLANT 36: Elmer W. Stewart, Structural Designers.

PLANT 77: George H. Bean, Production Engineering, Stuart.

PLANT 80: Joseph A. Maresca, Structural Designers, San Diego.

(Continued on page 6)

P. Cocchi
Fuse. Sub.

B. Pennino
Fuse. Sub.

A. J. Schuckle
Plan. & Contr.

J. McKenna
Maintenance

J. J. Martyn
Engineering

M. A. Pascucci
Fuse. Minor

M. Dalto
Fuse. Minor

D. H. Warner
Train. & Dev.

R. E. Bishop
Material Admin.

See international potential for tracked air cushion vehicles

Three from Grumman—Vice President George Skurla, Bob Benito, and Ron Spencer—represented the Company in Colorado last month ("out on the prairie, an hour from Pueblo,") at dedication ceremonies for the Federal High Speed Ground Transportation Test Center. That is where the Grumman-designed tracked air cushion research vehicle (TACRV) will be tested, if Grumman gets its hoped-for go-ahead on the hardware. At present, under Benito's direction, design of the research vehicle is going forward under a $3 million contract from the Department of Transportation. A wind tunnel model is scheduled to be ready this month.

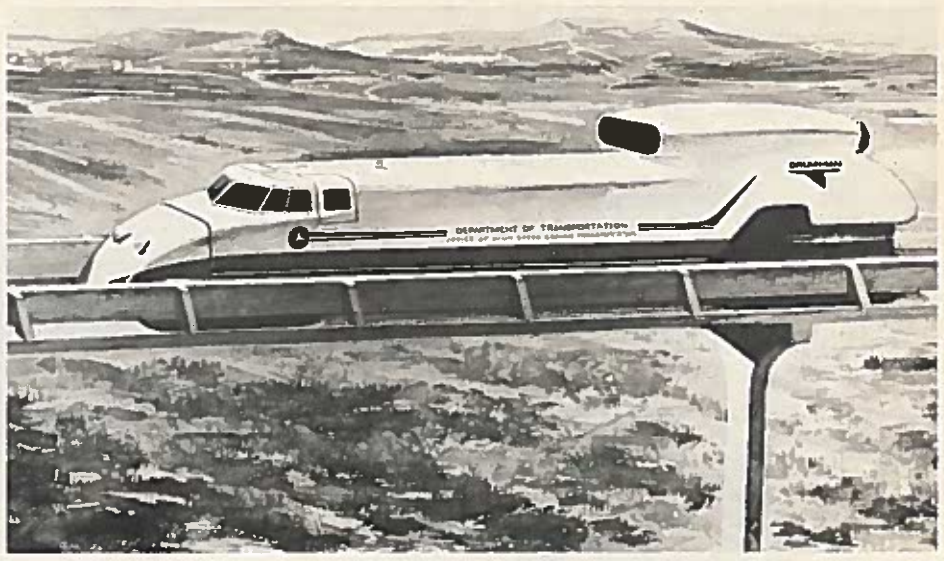
Calling tracked air cushion vehicles "the fastest and safest people movers on earth," James M. Beggs, Under Secretary of Transportation, told the guests at the ceremony, "Without doubt, this High Speed Ground Transportation Test Center will have international implications in providing more sophisticated, more convenient, and safer forms of transportation for tomorrow's world."

Benito was invited to be present in his role as TACRV Program director. Skurla is director of Grumman Aerospace Product Engineering, and Spencer is Grumman Civil Systems Business Development manager.

"We fully expect to be making use of these new test facilities in Colorado for our TACRV," Benito said last week. There will be a 20-mile oval track or guideway to permit high speed testing, and another track for test of a relatively noiseless and pollution-free high speed electric linear induction motor (LIM) developed by AiResearch.

TACRV, as designed by Grumman, is potentially a 300 mph vehicle for skimming on a thin layer of air in a U-shaped channel. When built, it will be 52 feet long, accommodating, for experimental purposes, four persons. "We want to achieve a total system that is economical," Spencer said. "So we're designing a very sophisticated suspension system into the vehicle, and the guideway will purposely be built with all kinds of irregularities in order to evaluate the ride."

The Department of Transportation sees the Los Angeles Department of Airports as a likely first customer for tracked air cushion transportation for the busy Los Angeles metropolitan area.



TACRV. Artist Craig Kavafes shows tracked air cushion research vehicle on elevated guideway. The vehicle is being designed by Grumman to cope with high concentration of travelers in metropolitan areas. TACRV will skim along on a thin cushion of air within a guideway, either elevated or at ground level.

Revamp Apollo launch schedule . . .

Extensive changes to the Command/Service Module following the Apollo 13 explosion last April have put the Apollo 14 mission back to a January 31, 1971, launch date. Apollo 15 will follow in July of next year.

Bad news for planned Lunar Module usefulness in moon exploration: The National Aeronautics and Space Administration, in face of tight budgets and future space programs, has cancelled two of the moon missions and Lunar Modules 9 and 13. Thus, LM-8 will go on the Apollo 14 flight and Lunar Modules 10, 11, and 12 (with modified fuel tanks and extended stay provisions) on Apollos 15, 16, and 17. These last three LMs are modified to include Boeing's lunar rover, capable of traveling up to 25 miles on the moon. Each of the three final lunar missions is planned for 72 hours' total stay time.

LM-8, for Apollo 14, is at Cape Kennedy undergoing checks. It will be manned by Alan Shepard Jr., commander; Ed Mitchell, LM pilot; and Stuart Roosa, Command Module pilot. Tom Carpenter is the Grumman spacecraft director.

LM-10, for Apollo 15, is scheduled to leave Bethpage for Kennedy Space Center next month. Last week Astronauts Dave Scott and Jim Irwin were in Plant 5 going through the simulation portion (the spacecraft "flying" on its own power) of the Formal Engineering Acceptance Tests. A simulated Boeing Rover and its flight-type deployment mechanism are being set up in the M-7 mockup in Plant 5 for work and fit checks, and in early October, on the LM-10 descent stage, the Rover deployment mechanism will be demonstrated. Jerry Goldmacher is spacecraft director for LM-10 and also LM-12.

With two of the four remaining Apollo lunar missions scheduled for 1971 and one each for January and June of 1972, NASA's space effort seems likely to turn from moon exploration to the earth-orbiting Skylab and then to the Space Shuttle, on which Grumman is working under a $4 million Phase A feasibility study contract.

Intruder family keeps on growing . . .

Grumman's ubiquitous A-6 Intruder continues to make news in far-away places. A-6Cs are proving their capabilities as night attack aircraft with the Fleet in Southeast Asia and at Whidbey Island Naval Air Station, the West Coast training area for crews. Newest version of the A-6 gets its first flight as the A-6E before the end of this year.

The first Norden advanced radar is being delivered to Grumman for the A-6E this month, according to Bill Trillo, A-6 Program director. The new radar is capable of doing detection, tracking, and terrain clearance functions simultaneously. After preliminary bench testing, it will be installed and then compatability checks run with its new solid state digital computer. First flight of the whole new system — computer, armament control unit, and Norden radar—is scheduled for December at Calverton.

Navy Technical Evaluation and Board of Inspection and Survey acceptance trials for the A-6C were successfully run in the spring in a parallel test program aranged between Grumman and the Operational Test and Evaluation Force. The combined testing program worked out successfully and proved economical, Trillo said. Forty-one flights were made to determine carrier suitability and maintainability and to test the new sensors that make the A-6C a night interdiction attack airplane.

Oh, those lucky school kids!

Orchids on a working day, delivered to the gate? A little unusual. But so is Kathy Kolb.

Blonde Kathy was "summer help" for the F-14 Support Program in Plant 15 all summer, and just before she was leaving, her co-workers had a brainstorm and decided to nominate her for "Gal Friday" on Herb Oscar Anderson's WHN morning radio program.

Kathy Kolb

Steve Lowe's letter nominating Kathy for "Gal Friday" tells the story:

"Kathy Kolb is a junior at St. John's College in Queens. She is studying to be an elementary grade teacher. Presently, she is employed for the summer as a secretary for a group of engineers in Grumman Aerospace Corporation, Bethpage, Long Island, New York. She has, of course, performed her normal responsibilities of typing and phone answering, which she has done flawlessly, but she has also requested and accepted some of the tedious engineering responsibilities such as charts and lists and always with a warm cheerful outlook."

So you see why she got the orchids. Along with them came a note from Anderson:

"Congratulations to WHN's 'Gal Friday.' It is my pleasure as 'Morning Mayor of New York' to salute you—and to shower you with orchids—to show that your hard work is appreciated."

This is Kathy Kolb's second summer at Grumman. Last year she worked for Grumman International, Inc. Her mother, Louise Kolb, works in Business Development, Plant 5, and her father, Fred, a 22-year man, is in Manufacturing Technology in Plant 1. Brad Osthues and Martin Miller were her summer supervisors.

plane GRUMMAN news

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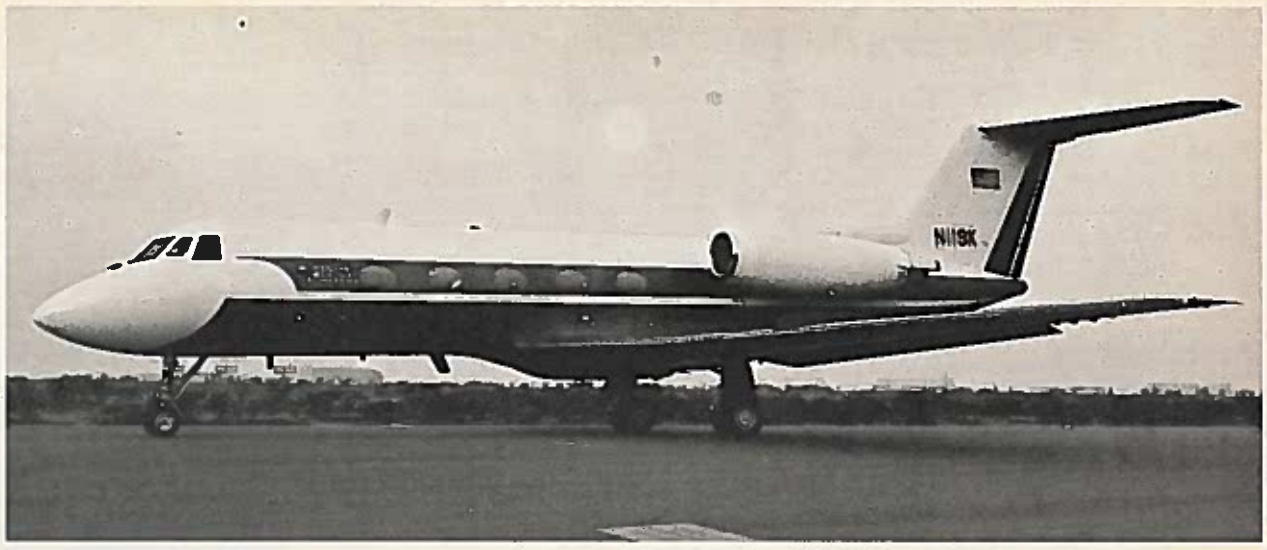
Fanjet Gulfstream a beautiful machine... ask the man who owns one



Kaiser Gulfstream. This is one of two turquoise and white Gulfstream IIs belonging to Kaiser Industries Corporation, Oakland, Calif. Said Ron Guerra, manager of aviation for Kaiser and affiliates, 'Such power, such great maintainability! Its short field capability is excellent.' The Kaiser Gulfstream II hops from Oakland to Bethpage in about 4½ hours, from Oakland to Hawaii in 5½. (Kaiser photo)

You've heard of ships that pass in the night. Well, here's a modern version. "We were flying along in our Gulfstream II over the South Pacific, at about 43,000 feet, when we heard the crew of another Gulfstream not more than two or three hundred miles away. Hardly expected to be listening in on another Gulfstream up there in November."

The speaker was Ron Guerra, manager of aviation for the world-wide Kaiser Industries and their affiliated companies, and a long-time friend of Gulfstreams. The other Gulfstream winging along in the black Tahitian skies belonged to Superior Oil.

"We who fly our companies' Gulfstreams are kind of a 'family,' bound together by our friendly relationship with Grumman and Rolls-Royce, and the airplanes themselves," Guerra said. "You might meet a Gulfstream crew from Falconbridge Nickel Mines at Vancouver, or run into Pennzoil in the airport at Sydney. The fact is," he said, "I'm so happy with our own two Gulfstream IIs, and the two Gulfstream Is owned by our partner companies in Australia, that I recommended a G-II to one of our affiliates, Rio-Tinto Zinc Corporation of London." This was Number 91, just flown from Savannah to Grumman's service base in England for outfitting.

'No problems'

Ron Guerra, young, enthusiastic, himself an experienced pilot, has reason to be partial to Grumman Gulfstreams. "We flew one of ours (Number 17) constantly for 100 days nearly all over the world, into and out of all kinds of airports, with no problems," he said. Kaiser's 100-day log, excerpts from which are reproduced here, covered 283 hours' flight time and 127,245 miles.

Gulfstream II Log

Excerpts from Kaiser Industries' 100-day itinerary

Date	From/to	Flight Time
Nov. 11	Oakland - Bethpage	4:36
	Bethpage- Keflavik	4:59
	Keflavik - Rome	4:04
Nov. 13	Rome - Abidjan, Ivory Coast	5:07
Nov. 14	Abidjan - Yamoussoukro, Ivory Coast	:48
	Yamoussoukro - Abidjan	:37
Nov. 16	Abidjan - Santa Maria, Azores	5:09
	Santa Maria - Boston	5:00
	Boston - Oakland	5:50
Nov. 19	Oakland - Honolulu	5:20
	Honolulu - Pago Pago	5:07
	Pago Pago - Noumea	3:19
Nov. 23	Noumea - Melbourne	3:20
Nov. 25	Melbourne - Sydney	1:01

"Such power, such great maintainability!" Guerra exclaimed. "Its short field capability is excellent, and in airports like the one at Raton, N.M., where Kaiser has a coal mine, the Gulfstream II comes out of that 6,000-foot elevation with enough fuel to fly right on to the West Coast. Short runways are no problem either, although in southern California there's an airport so small we had a little trouble because the asphalt wasn't thick enough to take our weight without denting."

The turquoise and white identical Kaiser planes carry a maximum of 10 passengers each and a crew of two pilots and a flight mechanic, with an extra pilot on the longer flights, say, to Sydney, Australia. The flight crew has its own bunks and galley in the cockpit. The other passengers sleep on divans and comfortable lounge chairs that convert to beds.

Guerra can hardly say enough good things about Gulfstream II. "It's a magnificent airplane," he proclaims. "A tiger. The Company executives made the right move when they bought ours, and they're really happy. Of course it's kind of nice to have the pilots like them too. Pleases both sides."

Kaiser has enough traveling, both domestic and foreign, to justify a stable of airplanes. Kaiser Industries and affiliated companies have operations in 37 states and 30 foreign countries, with 246 major plants and facilities and total assets of $2.9 billion. Their home base is Oakland, Calif.

'Truly unusual'

Guerra emphasizes that the fanjet's capacity for short hops, high-altitude takeoffs, and ocean-spanning flight make Gulfstream II a plane that is truly unusual in executive transportation. Grumman's Charlie Lewis, director of Gulfstream Services, regards every Gulfstream, I or II, as a special friend and a co-conspirator in sales. "The reputation of our Gulfstreams is our best sales promotion," he said the other day in Savannah. "We've got 197 happy customers flying Gulfstream Is, and Number 95 is just coming off the Gulfstream II assembly line here. Number 94 has just been delivered to Esso-Air, a division of Standard Oil of New Jersey."

Read the fine print . . .

The Long Island Better Business Bureau warns householders to study a guarantee ahead of time rather than after a failure occurs. Some consumers talk themselves into believing that if a guarantee states its terms the eventuality will never happen. Take paint, for instance. "A paint guarantee against peeling," points out the BBB, "should not be interpreted to mean that the paint will never peel. It means if the paint peels the guarantor will perform in accordance with the guarantee." And that, says the BBB, may have limitations.

The BBB has published some buying guides, and any single copy can be ordered by sending a self-addressed, stamped, business-size envelope to Better Business Bureau, 131 Jericho Tpke., Jericho, N. Y. 11753. The subjects include: How to Manage Your Credit, How to Buy a Food Freezer Plan, How to Buy an Air Conditioner, What You Should Know About Garnishment, How to Buy a Car, How to Avoid Schemes, and How to Buy Furniture.

Anniversary list . . .

(Continued from page 4)

PLANT 83: William P. Jagel, KSC Logistics.

PLANT 89: Donald H. Specht, Quality Control Supplier, Cleveland.

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Three women and 37 men add up 15 years:

PLANT 1: Michael W. Flore, Prototype; Irving E. Freling, Inspection - Mechanical.

PLANT 2: Joseph P. McAndrew and August F. Buckmann, Parts Paint; Harry L. Hicks, Hydraulics, Albert J. Adinolfi, Support Equipment Production; Frank C. Talleur, Production Control - Parts Control Detail; Norman C. Jockel, Tool Fabrication - Loading/Tool Control.

PLANT 5: Michael Mercogliano, Static Test; Edward Nikodem, Wood Shop; Samuel C. Avati, Space - Management & Staff; Val J. Burt, Repair Control; John H. Geyer, Facilities Maintenance; Donald Archer, Contracts - Aircraft.

PLANT 6: Lawrence F. Damiani, Prototype; Ralph W. Preece, Flight Avionics; Nicholas H. Savene, Government Material Control; Carlton J. Tuttle, Facilities Maintenance; Warren M. Dodson, FAD Management & Staff; Louis A. Bergdahl, Computer Systems.

PLANT 7: Edward J. Chlanda, Flight Operations.

PLANT 14: William H. Junge, Facilities Maintenance.

PLANT 15: Shirley F. Mason, Program Management - F-14A.

PLANT 18: James Stolz, Plant Protection.

PLANT 25: Frank A. Cottone, Equipment Lines; Howard Sherman, Space Program Staff; Howard T. Wright, assistant Program director, Space Shuttle.

PLANT 30: Richard C. Higgins Jr., Corporate Services Management & Staff.

PLANT 34: Edith R. Thumer, Product Support Tech Secretaries; William E. Misak, Alighting Gear.

PLANT 35: Robert H. Bullis, Thermodynamics; Harold J. Weisbruch, Quality Control Tech Services.

PLANT 36: James T. Bergamine, Fuselage Minor Assembly; Augustus J. Lopez, Fuselage Major Assembly; Louis Cutalo, Final Assembly; Lillian M. Bozek, Reproduction Services.

PLANT 83: Donavon W. Haines, KSC Engineering; Julio C. Hernandez, KSC Quality Control; Raymond J. Polniak, KSC Manufacturing Shops.

PLANT 88: Donald H. Frey, Engineering, Point Mugu.

Don't be just a spectator—

join the Tiger team's

war on paper . . .

Stop Tons Of Paperwork

Tired of pushing tons of paper around just to get the job done? Literally, a ton and a half of paper **is thrown out every day,** and probably a third of it is unnecessary, estimates one systems specialist.

"Our paperwork," says President Lew Evans, "has grown to alarming proportions, and the cost has become more than we should bear—especially when you consider that much of this paper is not really necessary.

"Documents are being distributed needlessly, only to be tossed into the wastebasket by recipients who don't know how to stop the flow.

"Even worse, some unnecessary paperwork isn't thrown away: it is filed, piled, and passed around along with vitally important information. The unimportant clogs the system. Both time and money are involved, and this is something we must continually battle.

"This attack on unnecessary paperwork is going to start right here, **with me.** I'm going to look at the reports I request to make sure that they are **all** necessary. And I'm passing this word along to all department heads and program managers: 'Eliminate unnecessary paperwork.'"

Evans has appointed a "Tiger team," headed by Bruce Tuttle, to help attack the paper problem.

You can help, too. Look around, and ask yourself, can this form or report be:

- Eliminated?
- Issued less frequently?
- Condensed?
- Improved as to format?
- Reduced in distribution?
- Reproduced more economically?

(A drive called "Operation Paperwork" conducted by Space Program Administration last year proved that thousands of dollars can indeed be saved. Department members were able to get themselves off unwanted distribution lists, for example, for a saving, in that instance alone, of 1½ million pages a month.)

The new Tiger team plans to use the same method to implement the paper-saving effort: counter-top boxes placed in strategic locations, where a simple procedure allows you to "sign up to get off" unwanted routings.

Secretaries, you can be of great assistance, too. Please keep copy requests to a minimum. Don't ask for 100 copies if 50 will do, or 12 if 10 will do. "Cheaper by the dozen" is not really so, if the extras are not needed. Use snapout forms where possible for interoffice memos.

Who can help? Anyone who must write or type or route or file.

Who benefits? Everyone, in time and effort saved. Watch for future developments. Meantime, before you generate reports or copies of reports, "think STOP."

Cover girl

Our thanks to Pam Brady of Production Engineering, Plant 35, for enhancing our back cover while helping to publicize the Company-wide battle against excess paperwork. Pam, and many secretaries like her, are quite often burdened down with armloads (and deskloads) of paper—much of it unnecessary.

Does excessive paperwork bug you? Are you on somebody's list (distribution, that is) and don't know how to get off? If you've got suggestions on how to eliminate excessive paperwork, or if you want to find out how to get off a distribution list, call a member of the Tiger team on Ext. 2451.

S-T-O-P! It isn't just the Reproduction Department here in Plant 1 that cries 'Help!' It's everybody who is on the receiving end of too long, too many, or too frequent reports. President Lew Evans has appointed a Tiger team to help eliminate unnecessary paperwork. (Photos by Nat Scherer, Tiger sketch by Jim Rodriguez)

Looking at Systems Technology—modern science derived from ancients

Gene Bonan is in the extraordinary position of having a job that's as old as the hills and as new as tomorrow's spacecraft.

Gene is director of Systems Technology and believes, though others may disagree, that his kind of work goes way, way back . . . to the ancient Greeks or Egyptians, or even further back in time. "The terminology has changed," says Bonan, "but I don't think that the basic job has."

What is that basic job? How would you define it? Bonan replies:

"It's really nothing more than a systematic approach to problem solving generously larded with common sense, planning, and hard work."

That's about as concise as you can get, and as a result, drastically oversimplified; for the work strikes deeper and wider veins of activity. And it's getting deeper and wider at a phenomenal rate as the "knowledge explosion" rolls on. In science, specialties proliferate and generate more specialties, and technology runs apace, breathlessly. It seems that so many rather narrow and deep-probing specialties have sprouted that each gets progressively more separated from the other; and they "grow" almost randomly . . . each unconcerned with the other . . . each existing in splendid isolation . . . each passionately dedicated to protecting its own private preserve . . . and none communicating across specialties.

"That's a negative point of view, and a frightening one were each highly specialized discipline to go off on its own," Bonan asserts. "It's Systems Technology's job to see that that doesn't happen, and that all the specialties get tied together in defined programs. So systems engineering is a **process** to set objectives, gather the information needed to understand a problem, and coordinate an entire effort. Therefore, systems engineers tie together people, processes, and tools to achieve a precise goal at a scheduled time."

The talents required to do the over-all job differ from those of the specialist who's concentrating on one aspect of the job. Those who manage the total job are, in the main, generalists; they're the engineers who are capable of understanding the design and use of everything that goes into, say, an aircraft. They are the people who see how A, B, and C relate to S and T and how all segments work as a unified vehicle. Instances abound: the Lunar Module, the E-2A Hawkeye, the OAO, the F-14, and so on.

This type specialist-generalist complexity got its big boost technologically as a consequence of World War II, and it's been racing along ever since. If you were to characterize what is now called systems engineering, it could be seen broadly as interdisciplinary, large and complex, time- and money-consuming, and decision-making. That is, systems engineering transcends individual specialties; it deals with and coordinates diverse technologies; it involves a continual need for avoiding technical obsolescence; and it rigorously defines issues continually to insure timely decision-making.

"In actual operation," Bonan says, "there's a logical, sequential flow that starts with a user requirement: We find out what the customer wants, usually in broad terms, and develop a mission analysis. This, too, is in broad terms . . . he wants a fighter aircraft of such-and-such Mach, to weigh no more than X pounds, and so on.

"Then we have to get more and more precise as we get to problem definition stage. Here we set down functional requirements, and usually get into the business of trade-offs. Something's got to give, in other words: You can't have a B-52 bomber and an F-4 fighter and an EA-6B electronic countermeasures aircraft all in one.'"

Somewhere along the line, too, comes the question of cost per aircraft: How much is the customer willing (or able) to pay? What are our projected costs? It may even be, sometimes, that the Corporation must answer the hard question, "Can we make a profit if we build this plane?"

Three-in-one approach

In the meantime, all sorts of analyses are being made by people in Bonan's three-headed organization, Systems Engineering, Electronic Equipment Engineering, and the Electronic Systems Center, directed by managers Norm Lewin, Mike Mohr, and George Klaus, respectively.

"Take Lewin's area, where precise methods had to be developed to give management the technical backup required to make program decisions," Bonan explains. "Half a dozen sections get into the act: Systems Design and Analysis; Reliability and Maintainability Control; Guidance and Control; Systems Evaluation, Test and Simulation; Weight Control; and Analog Hybrid Applications.

"Mohr's sections deal with RF Engineering, Vehicle Electronic Design Engineering, Computer Engineering, Navigation and Control, Prototype Electronic Development, and finally, Power, Optics and Displays. Filling out the structure, Klaus' organization encompasses Electronic Engineering Laboratories, Measurement Sciences, and Microelectronics and Circuit Design.

"I mention all this because a lot of people in Grumman don't realize that a large percent of Grumman Aerospace's efforts are in the areas of electronics and software."

It's a dramatic demonstration of how drastically the world has changed in just one generation. The pace is unmistakable—as are the methods and the achievements.

It's a well-worn truism that many of the "old ways" of doing things can't keep up with newer methods, and perhaps there's no better proof than in the sprouting field of electronics. The aircraft of the Thirties and Forties—though charmingly simple and a thrill to fly—are to today's aircraft as bow and arrows are to missiles. With the advent of World War II, "flying by the seat of your pants"' (except for aviation buffs flying such small private planes as the Piper Cub or a Cessna), gave way to the highly sophisticated aircraft methodology requiring a systems engineering approach. As Bonan comments, "Imagine a pre-war aircraft, and then compare it with the systems-engineered Navy E-2A Hawkeye.

"With two pilots and three men manning airborne radarscopes, the Hawkeye has a great ability to perform its air traffic-airborne-early warning and intercept-control job. It's been called a 'computerized sky sentry' and that's a pretty good designation for it because it can search out, identify, and track all aircraft and surface vessels within its radar range, and do it automatically. In addition, the Hawkeye can 'organize' friendly aircraft, on a minute-by-minute basis, so that strikes against an enemy can be made with maximum effectiveness. All through this, Fleet headquarters is kept informed—again automatically—so that a task force commander has the information he needs to employ his surface and air units properly."

Photos by Marie Trimborn

In a paper co-authored by Bonan, the question is asked whether a system like the Hawkeye's could be put together piecemeal, using airframe sections and subsystems not designed from inception to fit together mechanically and electronically and to operate compatibly. And the answer is, "No."

That's why both specialists and generalists are needed. And the proof of the approach, systems engineering, is shown (among others) in the A-6A, EA-6B, OAO, and LM. In the case of two aircraft, the EA-6B and the F-14, the concept has been improved in action through the use of the full mission engineering simulator and the SITS (System Integration Test Site), which, says Bonan, "let's you 'fly' a faulty mission and correct it—all on the ground."

Electronic revolution

Bonan is quick to point out that he isn't the guy who works out and controls the electronic "magic shows" that have so revolutionized Grumman and industry. "We have about 1,400 scientists and engineers on staff who do the work. In addition, we get help—very important help—from other areas, principally Research and Advanced Development and Production shops. Everything has to work together if we're going to get the job done the right way."

Part of "everything" is, of course, a long line of products used by Grumman but not made by the Company. "We're not electronic manufacturers, we don't make jet engines—we don't manufacture all of the items needed for today's aircraft or spacecraft. No single manufacturer could—or would want to. But the point is that we have to know enough about what they're doing to be able to get close cooperation—the kind of cooperation that is always a two-way flow. We, therefore, have to keep up with and advance the state-of-the-art. That's one of the primary reasons why we have to have matching talents here, in Grumman. If we don't understand what our associate contractors are doing, how can we effectively control our programs, such as the F-14?"

It is, without question, a very complex world, this Systems Technology giant that Bonan is handling. As one of his people wryly put it, "It's gonna get a lot more complexer."

Bonan sees that as a challenge, and a very positive one at that:

"A lot of our people have really come into their own here. It's an exciting kind of work, and your field is as limited or broad as you make it."

Company-wide drive will aid United States POWs in Vietnam

Photo of Navy Lt. James Connell appeared in North Vietnamese paper in July, 1966, according to Air Force/Space Digest, but his name was not on POW list released in June of this year. Letter below was written by Mary Lou McEnaney, daughter-in-law of Jim McEnaney, Food Services.

Where are they, those more than 1,500 U. S. servicemen unaccounted for in Southeast Asia? Where are those who are listed as "Missing in Action"? Are some or most or all of them in prisoner-of-war camps? How humanely are the POWs being treated in North Vietnam?

Most important, who of them still live?

The Department of Defense has a list of names of prisoners, furnished by North Vietnam, but it calls the list "incomplete and unacceptable." That's not an idle suspicion, for the Department has released photos of two prisoners who were identified in North Vietnamese newspapers but who were **not** on the official list.

The so-called Committee of Liaison with Families of Servicemen (a branch of the New Mobilization Committee to End the War in Vietnam, formed at the request of North Vietnam) listed 335 names of Americans held as prisoners—and the names were the same in January and March. As Daniel Henkin, assistant secretary of Defense for Public Affairs, pointed out, "this privately compiled and unofficially released list makes no reference to our men held prisoner by Hanoi and its agents in South Vietnam, Laos, and Cambodia."

What are the facts? How can we find out? What can we do?

More and more groups are asking these questions — and there's a newly created one right here at Grumman. Under the co-chairmanship of Muriel Leighton (Ext. 3365) and Jim McEnany (Ext. 3950), an effort is in process to get volunteers in the Company to "spread the word" on the plight of American prisoners of war and those assumed to be missing in action.

The idea is to put pressure on Hanoi; and the greater the pressure the better. How? As a starter, by writing a letter protesting Hanoi's failure to live up to the Geneva Convention, which Hanoi signed, and sending that demend for compliance to:

Office of the President
Democratic Republic of North Vietnam
Hanoi, North Vietnam
Via Hong Kong

There is some indication that Hanoi is beginning to change its attitude. Maybe a little more push from us will do the job. It can't hurt.

Others are working it that way. For example, our neighboring corporation, Fairchild Hiller, and others, are very active in the bristling business of trying to dig out the facts about those 1,500 servicemen.

Air Force Association units are taking part in the fight and a monthly Action Report is being published to update news about captured and missing-in-action servicemen, and to put pressure on North Vietnam to treat all prisoners humanely. Deeply committed, too, is a new organization, The National League of Families of American Prisoners and Missing in Southeast Asia, now some 3,000 members strong. Their offices are at 1 Constitution Avenue, N.W., Washington, D. C., zip 20002.

The outstanding corporate effort is Fairchild Hiller's, under the direction of its president, Edward Uhl. That company has, for instance:

- Sparked a company-wide campaign to write letters to North Vietnam, the United Nations, and other governments urging them to use their influence in Hanoi
- Placed public-service ads in newspapers and magazines
- Provided 100,000 posters carrying these messages
- Distributed a special Christmas card for families of prisoners and missing servicemen

In addition, through Uhl's urging, the National Association of Manufacturers sent a circular to its members urging them to encourage their employees to send letters.

So people—many, many people—are trying to get through the bamboo curtain . . . and help servicemen and their families.

August 6, 1970

Dear Dad,

It has been quite a month. Now Jim has his new assignment and we think that things will begin to improve. So down to business—

I have never been a sign carrier, a marcher, or a general protester; in fact, I guess that you could call me a member of the so-called "silent majority." Well, something really shook me up in February. I attended a coffee at the Wives Club and the speaker was a POW wife, Mrs. Ford; she also had another wife with her. Mrs. Ford's husband has been a prisoner in Hanoi for over three years; only this past December did she get a letter of six lines from him—quite a burden to handle with five kids and no knowledge whether she was a widow.

She didn't give us a tearful talk and try to enlist our sympathy and our crying towel—she asked our help in the form of writing letters to different embassies pleading for pressure on Hanoi to honor the Geneva Convention. So I came home and I wrote about ten letters with notes and if anything ever lifted my sense of loneliness, just the act of writing did. Perhaps the military feels stronger about this—it could happen to any one of the wives or any parent—but I think that the world is finally showing concern.

Since the letter writing began in October, most, or rather 75 percent, of the mail from the POWs has been received. I attended another meeting just a few weeks ago and saw Mrs. Ford again—I felt like a dope asking this, but I asked if all this was helping at all. She told me that in June she received a second letter from her husband—it consisted of seven lines which acknowledged his receiving one of her packages—no mail tho. The note was signed "all my love" as he usually had signed his letters to her. The pressure on Hanoi was helping and showing them that the American people did care what happened to their men. You should have seen how happy she was when she told me about the letter—I almost wanted to cry. An extra line was a million dollars to her.

I am enclosing a statement of facts explaining what we here are doing plus many other states and organizations. If possible, I am asking your help in this project. There is no political dispute—all we are asking is the honoring of the Geneva Convention that Hanoi signed.

The Red Cross is buying Aerograms here by the thousand—the cost is 13 cents apiece. At our write-ins, we are asking the folks to assume the 13-cent postage fee and to write one note per person. If everyone at Grumman could write one, it would be just great. They don't have to put their return address on the letter.

We are not asking anyone to agree with the policy of the war—we are not asking for a general release of prisoners. We *are* asking for a simple honoring of a signed pact that Hanoi is not honoring; we shouldn't have to plead or to apply pressure, but how long can one sit by and say, "how tragic," and turn the page of the newspaper.

I know that if you can help you will. I didn't mean to neglect you in this letter, Mom, when I began. I fight for little—this time I believe in my fight. Thank you for any help you can give to a lot of women, kids, and parents who don't know what's happened to those they love.

Love,

Mary Lou

Help needed!

Volunteers! They're needed, throughout Grumman's plants, to build on the work just begun by Muriel Leighton and Jim McEnaney. If you want to help with the POW program call:

Muriel Leighton, Ext. 3365, or Jim McEnaney, Ext. 3950.

F-14 on target . . . look to first flight

(Continued from page 2)

began in April. One stabilizer has already completed static failing load tests while heated to an elevated temperature to simulate the most critical flight conditions of the F-14. Lightning tests of that stabilizer are helping in the development of lightning-protection features.

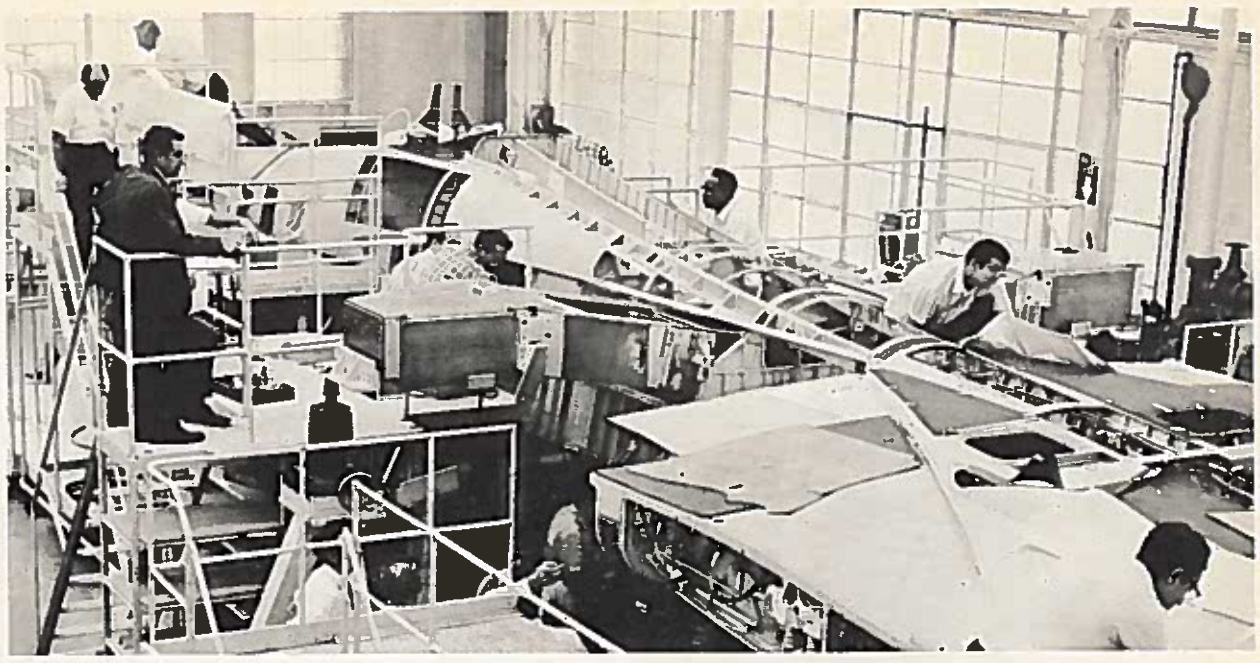
A second prototype boron composite stabilizer has been undergoing fatigue tests, representing severe combat flight conditions, to twice the equivalent flight hours (12,000 hours) expected of the F-14; and the tests will continue to **four times** its expected flight-hour life, or to failure, whichever comes first, by the end of this month.

Not only is the stabilizer meeting structural demonstration requirements, the program is running almost six months ahead of schedule.

The wing center section box beam and the wing pivot attachment — looked upon as the structural heart of F-14—are being made almost entirely of titanium joined by electron beam welding: Both are major advances in aircraft structure.

"Our plan for fatigue testing the wing pivot design well in advance of production hardware has really paid off," Fletcher says, "by giving us high confidence in the basic center section box structure while disclosing some relatively minor design changes on the two lower pivot lugs.

"Further structural testing of the wing center section box beam will go on with two units that are fully representative of flight hardware," continues Fletcher. "Both static and fatigue tests will be conducted before the end of this year."



Then, too, are the dramatic sled tests at China Lake. They'll be run for about two months. The basic idea here is safety—safety for both the pilot and the mission control officer. Dummies are used, of course, instead of people in order to determine how the two members of the F-14 crew fare at different speeds during the three-point sequence escape procedure: canopy ejection, MCO ejection, and pilot ejection. Both the pilot and the MCO are rocketed from their Martin Baker seats, a drogue shoot appears, and then a full parachute. Along the way, the seats and restraint belts are automatically detached.

During all this assembly and testing work, let's not forget the SITS (Systems Integration Test Site) activities at Point Mugu where the complex electronic components are being tested "on the ground," thereby shaving flight time and costs.

Put it all together and you come out with F-14, the world's finest air superiority fighter.

Short shots

For the next 13 weeks, Vin Milano, assistant G.I.I. corporate secretary and executive assistant to Dr. Tom Cheatham, President of Grumman International, will be a hard-working student at Harvard. He was chosen by Grumman to attend the Advanced Management Program for executives, Sept. 13-Dec. 10. Milano is a 22-year man with long experience in Weights. He was also director of Operations, Product Development, and was assistant manager, Advanced Aircraft Systems.

Mary Zolkoski of Medical, Plant 28, and her husband Frank carted home individual honors in championship play at Island Hills Golf Club a couple of weeks ago. Mary captured the women's championship in medal play over the layout in Sayville for the first time. Frank is making a habit of winning the men's title. This year marked the sixth time he took individual honors in the competition. . . . Three Hawkeye pilots of Carrier Airborne Early Warning Wing 12 were awarded 1000-hour plaques by Wing Commander Capt. Tom Quinn recently at Norfolk, Va. The recent additions to the E-2A honor roll are Lt. Chuck Fortenberry, Lt. Dan Lovasz, and Lt. Bill Kerry.

That time is just about here again. The Executive Committee of the United Fund of Long Island has established the 1970 fall campaign goal at $3 million—which is $200,000 more than the drive grossed in 1969. . . . Grumman Data Systems people looking ahead to next Sunday, September 13, and making incantations—wouldn't you if you had a picnic scheduled for Lido Beach, with lobster, clams, and Southern fried chicken on the menu?

Glad grads. **Eight men from Calverton show exhiliration while being pictured with instructor Joe Hosek of Training & Development following completion of digital computing skills development course. Graduates are (front) Don Garrett, Phil Marsh, Tom Vogt, (rear) Hal Clary, Don Buniski, Cliff Scott, Bill Koller, and Bob Latour.**

CALENDAR of events

Notice of events for period of Sept. 25 - Oct. 9 should reach Plane News by **Tues., Sept. 29.**

Amateur Radio Club: Wed., Sept. 16, 5 p.m., WA 2LQO shack on roof of Plt. 5. Emmett Goodman, Ext. 87125.

Amer. Inst. of Aero. & Astro.: Tues., Oct. 6, 6 p.m., Airborne Inst. Lab., Rte. 110, F'dale, dinner mtg., spkr., Dr. Wm. Ronan, MCTA, on Traffic Dist. Problem. J. Smart, 595-3246.

Coin Club: Wednesdays, 12:05, Vendor Rms., 1st fl., Plt. 25. Ken Hale, Ext. 1936.

Dance Club: Thurs., Sept. 17, advanced, Mon., Sept. 28, beginners, 8:30-10:30 p.m., Portuguese Amer. Hall, 306 Jericho Tpke., Mineola, $2/session. Len Luke, Ext. 9682.

Duplicate Bridge Club: Sept. 17 & every Thurs., 5:45 p.m., Plt. 3 cafe, partners guar. Pete Harrington, Ext. 1812.

Experimental Aircraft Assoc.: Fri., Sept. 25, 8 p.m., Wilson Tech. Ctr., reg. mtg. Ralph Rice, Ext. 1776.

Family Campers: Sept. 25, 26, & 27, Fri., Sat., & Sun., Cedar Pt., Sag Harbor, camp-out. Phil Giacini, Ext. 7881.

Fencing Club: Fridays, 5 p.m., Plt. 30 cafe., competitive fencing & instr. Joe Campisi, Ext. 1134.

Horseback Rid. Club: Tuesdays, 5:30 p.m., By-Way Farms, Huntington, wkly. ride. Caren Carlsen, Ext. 2725.

L.I. Ind. Nurses Assoc.: Thurs., Sept. 17, 8 p.m., Plt. 28 Audit., spkr., Robert Close, dir. of Enforcement, Bur. of Air Pollution, Nassau Dept. of Health, on "Prob. of Air & Water Pollution on L.I." Mary Gise, Ext. 3723.

Retiree Club: Wed., Sept. 30, 1:30 p.m., Holiday Manor, reg. monthly mtg. GAA, Ext. 2133.

Rod & Gun Club: Wed., Sept. 30, 8 p.m., John's Oasis, Hazel St., Hicksville, bus. mtg. H. Fesq, Ext. 6158.

Soc. of Mfg. Engrs.: Mon., Sept. 14, 7:30 p.m., Kennedy Airport, Pan Am hangar 14, tour of Pan Am facil. & 747 aircraft. Sid Hale, Ext. 3512.

OBITUARIES

Plane News has received word that death has come to the Grumman personnel listed below. We extend sincere sympathy to relatives and friends.

JOHN P. COFFENBERG of Plant 3 Machine Shop died Aug. 22 at the age of 54. He had been with the Company since 1957, and he lived at 104-35 212 St., Queens Village.

ARTHUR H. GOLDBACH of Interplant Transportation, Plant 2, died Aug. 25. He was 47 years old and had been with Grumman since 1951. He lived at 12 Brixton Rd., Old Bethpage.

EDWARD F. RZEMIENIEWSKI of Plant 3 Machine Shop died Aug. 29 at the age of 49. He had been with Grumman since 1966. His home was at 41 Andrew La., Levittown.

JOHN W. McGRADY died Sept. 3. He was 53 years old and he had been with Grumman 19 years. He worked in Tool Fabrication - Loading/Tool Control, Plant 2, and his home was at 192-15 B 69th Ave., Flushing.

EDWARD R. COLLINS died September 5 at the age of 50. He was in Vehicle Production Engineering, Plant 35, and had completed nearly 29 years with the Company. His home was at 22 Seville La., Stony Brook.

Wanted . . .

Witnesses to accident cor. Merritt & Garfield, Farmingdale, July 10, 4:40 p.m. Richard Dayton, 7, injured fatally. Call Richard's grandfather, Paul Lugar of Tech. Directives, at PE 1-8650, or Detective Robert Awe, 8th Precinct, OV 1-8800.

How high . . . is up might be answered by Ed Johnson of the N.Y. Nets, who makes dunking look ridiculously easy. Since he stands 6 foot 9 inches, it probably is. Ed and teammate Les Hunter were at Long Island plants a couple of weeks ago for a series of exhibitions. The Nets, who recently acquired Rick Barry, open up this fall at the Island Garden in West Hempstead.

Wallace, Gabriel pace Commanders playoff sweep

"You see him here, you see him there" was once a favorite rhyme when referring to that ever elusive Pimpernel —but it might also be applied to Al Wallace and Ed Gabriel. They showed up in yet another softball league recently to help the Commanders clinch the title in the Plant 3 second-lunch circuit. Both slammed homers as the Commanders eliminated the defending champion Jets in the playoffs. Earlier, the Commanders had whacked the Jets, 11-5 and 9-2. Also highlighting that final triumph were Jim Casey, who had four key hits, and Don Lundergan, who went 5 for 7. . . . At Calverton, the Old Timers found the fountain of youth just in time to shut out the Whats Left, 3-0, to go one-game up in the league playoff. Frank Poscillico, hardly venerable but certainly an old-timer at Calverton, tossed zips at the Whats Left until another Calverton favorite, Don Halliwell, doubled in two runs as the winners scored all three tallies in the last inning.

In Monday night play, Joe Vosefski paced the Monopoles to a 9-1 triumph over the Vikings by tossing a five-hitter, aided and abetted, according to the official scorer, by a glaring sun. Vosefski now sports a record of nine straight wins over two seasons—and could the sun be shining all the time? Bill Diercks rapped two singles in that tilt. . . . Al Caramanica drilled three hits and was mighty stingy on the hill, too, as he sparked the Road Runners to a 10-3 decision over the Druids. The win ran the Runners season record to 9-3. . . . But Research registered a 6-4 victory over the Duffers, their 12th straight in the Monday loop, as Ed Nowatski belted one for the circuit.

Although George Dochat slammed two hits in the J-Mets 10-8 win, it was the four over-the-shoulder catches he made in left field that really knocked Research out of the Thursday night playoffs. Jim Rankel, Tony Tricarico, and Mike Angum chipped in with two hits apiece also as the Mets qualified for the finals in the after-hours league. . . . Hal Schaal, Bill Foote, and Paul Barnett stood out offensively as the Tactical Jammers sprinted in the Wednesday nite National loop by clipping the Side Lobes, 19-15, the Reds, 10-9, and Hits, 7-8, the last two in a doubleheader finished just before dark. Schaal collected three hits, one a homer, as the Jammers finished off the Reds, while Barnett contributed three safeties against the Hits. The streak enabled the Jammers to finish in third place, just ahead of the Hits and Reds.

In the American Wednesday nite loop, the Digits finished second with a lot of help from Sal Iaccarino. Sal slammed two homers in a 24-9 triumph over the CBA Stars and knocked in eight runs, and against the Hi-Balls, Iaccarino hit another round tripper and drove in six tallies.

One to go for net title

Although the match was closer than manager Mitch Rosenbaum had anticipated, the Grumman varsity netmen last week eliminated Republic, 2-1, from the playoffs for the L.I. Industrial tennis league title.

Things started out badly: captain Fred Hermann and Alex Kirillin, playing in the No. 1 doubles position, lost 6-0, 4-6, 4-6. That left it entirely up to John Hsu and Neil Pike, playing in the No. 2 spot, and to Jay Leng and Jacques Crouzet-Pascal, playing No. 3.

Pike and Hsu evened up the contest with a 6-1, 8-10, 6-2 triumph, then Leng and Crouzet-Pascal won the deciding contest, 6-0, 6-2.

Grumman is looking for its eighth straight league championship; the victory earned Grumman the right to meet Sperry in the league playoff finals that were scheduled for September 9.

Booters ready to open Industrial season

Practice may not make perfect, but Grumman's booters hope that regular season play is more rewarding than their warmup tilts have been. With the start of the official L.I. Industrial league scheduled for Sunday, September 20, the varsity soccer team hasn't yet found the right combination, on offense or on defense.

A couple of weeks ago, Brookhaven Lab edged Grumman 4-3 although the varsity had led 2-0 early in the first half on the solo jaunt by John Castle and a head shot by Allan Grillo following a corner kick by Brian Scheu. Brookhaven National Lab tied it up on a deflected shot and a scramble in front of the goal mouth, then went ahead 3-2 when a BNL corner kick caromed off a Grumman man past goalie Carl Herrnkind.

Jim Fedorenchik brought Grumman even on a head shot on a cross-over pass from wingman Scheu, but with 10 minutes left in the game, Brookhaven scored the clincher to win, 4-3.

In a 6-2 loss to Huntington, Brian Scheu and Allan Grillo hit the nets for Grumman in the first half, but three goals by Huntington in the first period and three more in the second half more than offset those scoring thrusts.

Sports notes . . .

The Grumman Ski Club team, league champions of 1970, is getting ready for the coming season, says Bob Schmitt. The team is looking for skiers of intermediate and advanced ability who are interested in recreational racing. Schmitt points out that previous racing experience is not required.

You can get more information at the next club meeting, scheduled for September 16 at the Holiday Manor, Bethpage, starting at 8:30 p.m. If you have further questions, call Bob on Ext. 2275.

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The Grumman Athletic Association announces a meeting to form Grumman basketball leagues, Tuesday, September 29, at 5:30 p.m. in the GAA office, Plant 28B. This is behind the General Electric building on the west side of S. Oyster Bay Road, north of Plant 28. For information, call GAA, Ext. 2133.

Top cats. Four hot shots from the Grumman Plant Protection force walked off with just about every award in sight at the Grumman Rod & Gun annual Invitational Shoot held at Islip town range last month. Led by team captain Al Berka (2nd L), who captured the master class and grand award trophies, Phil Boehm, Lt. Joe Oliveri, and Greg Criscione took the four-man team event and 32 individual awards, including Oliveri's top prize in the expert division. Fire was in .22, .38 and .45 caliber weapons. The field included 72 competitors from 18 Metropolitan gun clubs.

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